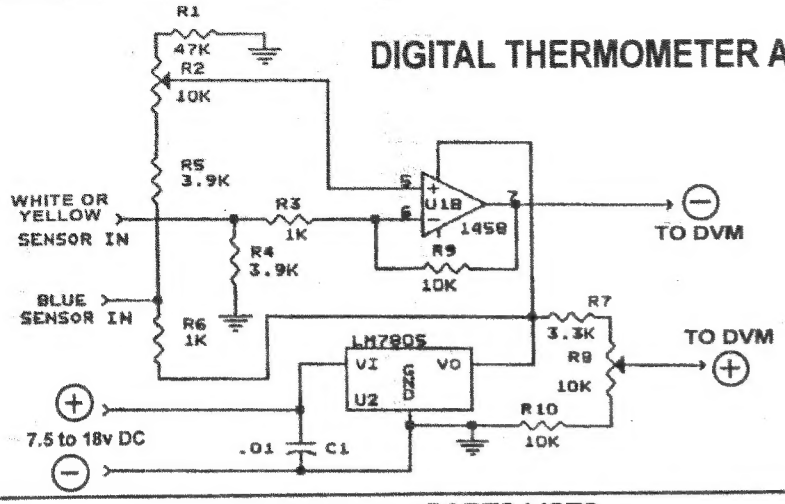
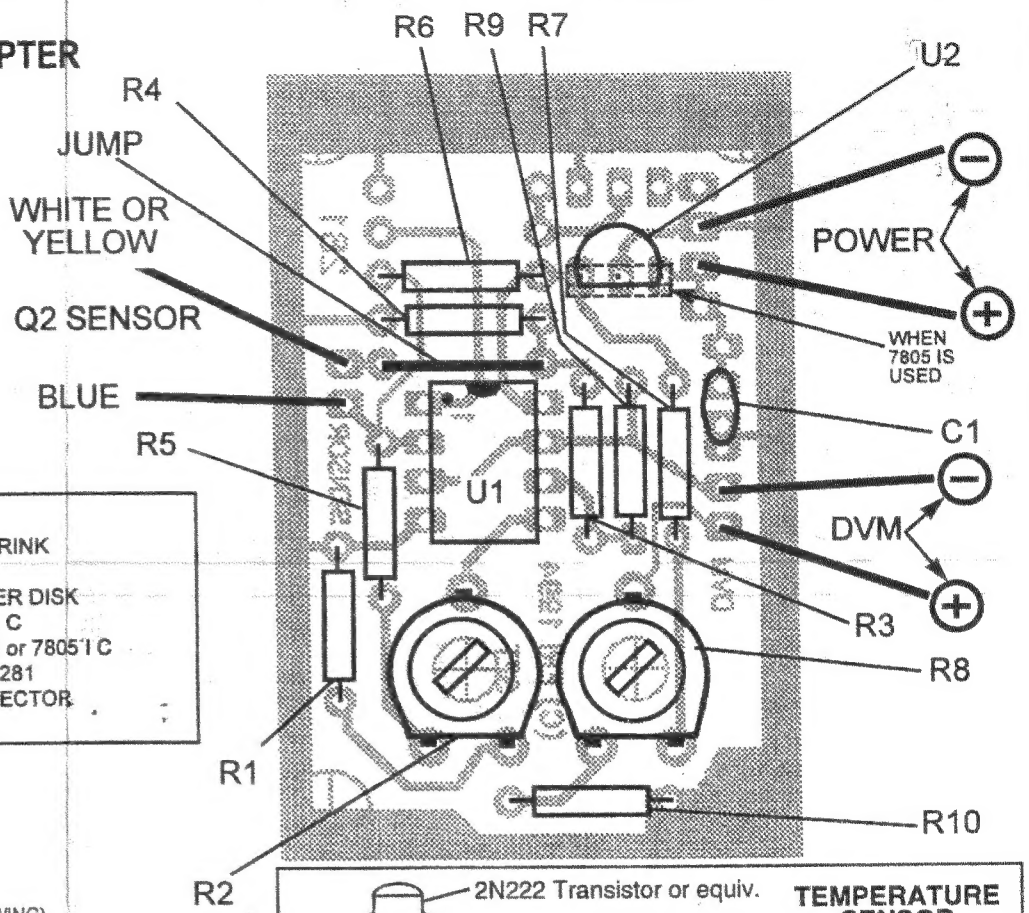
DIGITAL THERMOMETER ADAPTER





PARTS LISTS

( )	R1	47K OHM RES (YEL VIO ORG)	( )	1/4"	HEATSHRINK
( )	R2,R8	10 K OHM TRIM POT (HORIZONTAL)	( )	2 18" WIRES	
( )	R3,R6	1 K OHM RES (BRN BLK RED)	( )	C1	.01 uF CER DISK
( )	R4,R5	3.9 K OHM RES (ORG WHT RED)	( )	U1	LM1458 I C
( )	R7	3.3 K OHM RES (ORG ORG RED)	( )	U2	LM78L05 or 7805 I C
( )	R9,R10	10 K OHM RES (BRN BLK ORG)	( )	P C BOARD 080-00281	
( )	Q2	TEMP. SENSOR 2N2222 or 2N3904	( )	9v BATTERY CONNECTOR	
( )	1/8"	HEATSHRINK			

ASSEMBLY AND TEST INSTRUCTIONS

( ) 1. INSERT AND SOLDER JUMP
( ) 2. INSERT AND SOLDER ALL OF THE RESISTORS
( ) 3. INSERT AND SOLDER C1
( ) 4. INSERT AND SOLDER U1 AND U2 WATCH ORIENTATION
( ) 5. INSERT AND SOLDER A POWER CONNECTOR - WATCH POLARITY
( ) 6. CONSTRUCT TEMPERATURE SENSOR USING 2N2222 or 2N3904 TRANSISTOR (SEE DRAWING)
( ) 7. FIND LEGS 'E' 'B' 'C' ON TRANSISTOR AND SOLDER LEGS 'B' AND 'C' TOGETHER.
( ) 8. SOLDER THE BLUE WIRE TO THE END OF THE 'C' WIRE AND SOLDER WHITE OR YELLOW WIRE TO THE END OF THE 'E' WIRE (SEE DRAWING)
( ) 9. SLIP 1/8" HEATSHRINK OVER THE 'B' AND 'C' CONNECTION ISOLATING IT FROM THE 'E' WIRE AND HEATSHRINK.
( ) 10. SLIP 1/4" HEATSHRINK OVER ALL THE SOLDER CONNECTIONS AND 1/8" HEATSHRINK. ALSO SLIP THE HEATSHRINK 1/2 THE WAY UPON THE TRANSISTOR (SEE DRAWING).
NOTE: To water proof temperature sensor, put silicon over wire connections then heatshrink.
( ) 11. INSERT AND SOLDER THE TEMPERATURE SENSOR WIRES TO THE PC BOARD.

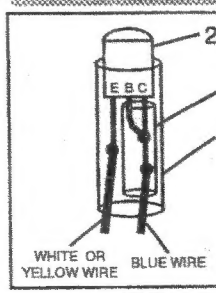
CALIBRATION PROCEDURE

OPERATING VOLTAGE (7.5 vDC TO 18 vDC).

( ) 1. TOUCH THE ⊕ LEAD OF A DVM TO U1 PIN 7 AND THE ⊖ LEAD TO GROUND.
* ADJUST R2 TO A READING OF 2.5 TO 3 VOLTS.

( ) 2. CONNECT THE DVM AS SHOWN ON THE SCHEMATIC AND THE PCB LAYOUT. SET THE DVM ON 2 VOLT DC SCALE, THIS WILL GIVE YOU READINGS TO THE 0.1 OF A DEGREE. ON MOST DVM'S YOU MUST DISREGUARD THE DESIMAL POINT LOCATION. * PUT THE PROBE FROM THE DT-3 AT THE SAME LOCATION AS THE PROBE FROM A KITCHEN OR OTHER TYPE THERMOMETER. ADJUST R8 SO THE DVM READS THE SAME AS THE THERMOMETER.

( ) 3. IF YOU DESIRE GREATER TRACKING ACCURACY FROM YOUR DT-3 KIT, YOU CAN REPLACE R9 WITH A 7.5 K OHM RESISTOR AND A 5 K OHM POT CONNECTED IN A SERIES. YOU CAN THEN ADJUST THE VALUE OF THE 5 K POT FOR THE BEST LOW TO HIGH TEMPERATURE ACCURACY.



TEMPERATURE SENSOR

- Use heatshrink tubing to keep shorts from occurring.
- To water proof temperature sensor, put silicon over wires before heatshrinking.

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DT-3 **151183**

Digital Thermometer Adapter

4/16/98